

**MOLLUSCAN SURVEYS OF OFFSHORE CORAL REEFS  
IN NORTHWESTERN AUSTRALIA AND ADJACENT  
BIOGEOGRAPHICAL AREAS**

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**ABSTRACT**

The Western Australian Museum undertook three major expeditions to the offshore atolls on the North West Shelf of Western Australia in the 1980s: Rowley Shoals (1982); Scoff and Seringapatam Reefs (1984); and Ashmore Reef and Cartier Island (1986). This was the first scientific work on the molluscs of the reefs. Survey reports on the fauna collected were subsequently published by the Museum. Work undertaken in the last 13 years, both on the offshore atolls and in biogeographically related areas, allows us to reevaluate biogeographical relationships of the molluscs of the oceanic atolls on the North West Shelf. The molluscan fauna of the offshore atolls of the North West Shelf is restricted; 260 species were collected during the original expedition to Rowley Shoals, 279 at Scoff Reef, and 433 at Ashmore Reef. This is substantially fewer than were collected in similar trips to the Philippines (651), Papua New Guinea (638) and Indonesia (541), and is also substantially lower than the 633 species collected at the Montebello Islands and 655 recorded from the Muiron Islands and Exmouth Gulf, both of these locations are along the inner continental shelf of Western Australia. With further collecting since 1986 a total of between 800 and 850 species of molluscs have now been collected on the North West Shelf atolls. The fauna of the oceanic atolls is very different from that recorded along the continental coastline of northern Western Australia, with only 33% of the species being recorded in both areas. In contrast to Christmas Island and the Cocos (Keeling) Islands, none of the molluscs collected on the North West Shelf atolls are Indian Ocean species; all are of Pacific origin. While *Drupella* were consistently collected in small numbers on the shelf atolls, no outbreaks were recorded. The offshore atolls in Western Australia have populations of a number of molluscs that have been, or could be, used as aquaculture species, including genera such as *Lambis*, *Strombus*, *Tridacna*, and *Trochus*.